

Serial No. 10/014,392
In reply to Office action mailed August 24, 2004
Page 12 of 14

Remarks/Arguments

In the above referenced Office Action, the drawings have been objected to for various reasons. Please note that the following changes have been made to address the objections made: In Fig. 1, the readout head has now been labeled 42, including appropriate changes to the specification. In Fig. 10, element 216 has been identified. Lastly, amendments to the specification have been made to include a description of spindle motor 40 in Fig. 1, and sector format 70 in Fig. 5. As such, the drawings are believed to be in an appropriate condition.

In the specification, the abstract of the invention was objected to because of various misspellings. Appropriate corrections have now been made.

With regard to the claims, all pending claims have been rejected under either 35 U.S.C. § 102 or 103. In light of the amendments listed above, and the remarks below, Applicant submits that these rejections are inappropriate and requests allowance of all pending claims.

As is fully described in the specification, the present invention relates to a data storage methodology in which data sets are stored with raw data interleaved with reference data to provide additional tools for efficient operation of the readout system. More specifically, the raw data to be stored on the media surface is interleaved with reference data in a predetermined format. This interleaving step is undertaken either prior to the writing of any information on the media surface, or concurrently therewith. Thus, the step of "storing" includes writing both structures to the media. The reference data mentioned above, provides the readout system with the mechanisms to periodically check the operation of the data storage system – either data retrieval or data storage itself. By configuring this reference data in an appropriate manner, several different optimization functions are achieved, including gain and phase settings for the

Serial No. 10/014,392
In reply to Office action mailed August 24, 2004
Page 13 of 14

readout system, along with error correction methodologies. These features are specifically recited in the amended claims set forth above.

In the Office Action, U.S. Patent 5,875,163 to Kuroda et al. has been utilized as the basis for all claim rejections. Examining Kuroda et al. in detail however, reveals that this reference does not disclose or make obvious the claimed invention. Most significantly, Kuroda outlines a storage system which utilizes disk pre-pits in order to arrange data. This pre-pit information is stored on the disk by the media manufacturer prior to delivery or use in a data storage system. Utilizing this media, data is stored within the physical structure located on the disk.

Most significantly, however, Kuroda does not include reference data interleaved with data to be stored, as contemplated by the present invention. The Kuroda et al. storage system is limited to the physical structure located on the surface of the media. This is similar to most media systems utilizing pre-pit addressing and synchronization techniques. The interleaving of reference data, as contemplated by the present invention, goes beyond this pre-pit methodology however, and provides unique and valuable features not contemplated. Further, the interleaving techniques of the present invention provide much more flexibility for the data storage system. For example, the reference fields could be placed at any selected distance from one another in order to provide tailored updates needed for a storage system. In certain instances, it is beneficial to provide this reference data at a more frequent rate, thus providing more frequent updates. Alternatively, a storage system may utilize fewer occurrences of the reference data, thus maximizing data storage capacity and reducing overhead. Clearly, this is a much different methodology and scheme than those utilized by systems relying solely on pre-pit information provided on the media surface.

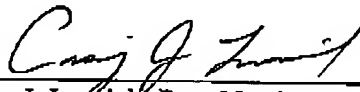
Serial No. 10/014,392
In reply to Office action mailed August 24, 2004
Page 14 of 14

CONCLUSION

Applicant submits that for at least the reasons stated above all pending claims are allowable over the art of record. As such, Applicant respectfully requests reconsideration and that a Notice of Allowance be issued in this case.

In the event a telephone conversation would expedite the prosecution of this application, the Examiner may reach the undersigned at (612) 607-7387. If any fees are due in connection with the filing of this paper, then the Commissioner is authorized to charge such fees including fees for any extension of time, to Deposit Account No. 50-1901 (Docket 18504/333).

Respectfully submitted,



Craig J. Lervick, Reg. No. 35,244
Customer No. 34205

OPPENHEIMER WOLFF & DONNELLY LLP
Plaza VII, Suite 3300
45 South Seventh Street
Minneapolis, MN 55405
Phone: (612) 607-7387
Fax: (612) 607-7100
E-mail: clervick@oppenheimer.com